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SY Farm Air Sample Filter Exchanges of Stack and Annulus Effluent Record Samplers and CAM(s)

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for performing required sample filter exchange/removal and comprehensive inspections of Record Air Sampler and the Annulus exhauster in SY Tank Farm to meet the requirements of TFC-ESHQ-ENV-STD-05 Radioactive Airborne Effluent Sampling.

1.2 Scope

This procedure involves sample filter exchange and comprehensive inspections of Record Air Sampler and the Annulus exhauster in West Area SY Tank Farm listed below.

<table>
<thead>
<tr>
<th>EDP Code</th>
<th>Stack Number</th>
<th>Location</th>
<th>Sample Type</th>
<th>EIN / EQ ID</th>
<th>PM Data Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>W145</td>
<td>296-S-25</td>
<td>241-SY A-Train Primary Tank Exhaust</td>
<td>Record</td>
<td>SY296-VTP-FLT-620</td>
<td></td>
</tr>
<tr>
<td>W146</td>
<td>296-S-25</td>
<td>241-SY A-Train Primary Tank Exhaust</td>
<td>AMS-4 β CAM</td>
<td>SY296-VTP-CAM-602</td>
<td></td>
</tr>
<tr>
<td>W190</td>
<td>296-S-23</td>
<td>241-SY B-Train Primary Tank Exhaust</td>
<td>Record</td>
<td>SY241-VTP-FLT-653</td>
<td></td>
</tr>
<tr>
<td>W191</td>
<td>296-S-22</td>
<td>241-SY Tank Annulus Exhaust</td>
<td>Record</td>
<td>SY296-VTA-FLT-920</td>
<td></td>
</tr>
<tr>
<td>W198</td>
<td>296-S-22</td>
<td>241-SY Tank Annulus Exhaust</td>
<td>AMS-4 β CAM</td>
<td>SY296-VTA-CAM-910</td>
<td></td>
</tr>
<tr>
<td>W199</td>
<td>296-S-23</td>
<td>241-SY B-Train Primary Tank Exhaust</td>
<td>AMS-4 β CAM</td>
<td>SY241-VTP-RA-301</td>
<td></td>
</tr>
</tbody>
</table>

2.0 INFORMATION

2.1 Terms and Definitions

- ABCASH - Automated Bar Coding of All Samples at Hanford
- SCFM - Standard Cubic Feet Per Minute (ft^3/min, ft³/min, ft3/min)
- RS - Record Sampler
- EQID - Equipment Identification Number (EIN).
2.2 General Information

2.2.1 Human Machine Interface (HMI) is located within SY241-VTP-ENCL-107, view screen of the alarm panel view is divided into two separate areas; [F1] Main Menu, [F3] CURRENT ALARMS, and [F5] Environmental Data.

2.2.2 When using the ABCASH system, it is not required to record sample information on the sample envelope or on the Sample Log.

2.2.3 Request for information steps where data has already been recorded may be skipped after verification of information.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 If a red label or no label is present, employees will only enter into cabinets after a qualified person has placed the cabinet into an electrically safe condition.

3.1.2 A portion of this work scope meets Tank Vapor Risk Classification RC-3 per TFC-ESHQ-S_IH-C-48. The RC-3 work will occur in a permanently posted VCZ; therefore, changing SY Farm respiratory protecting postings per TFC-OPS-OPER-C-08 is not required.

3.1.3 Respiratory protection may be required in conjunction with IHT monitoring when replacing air sample filters at primary exhausters.

3.1.3.1 Minimum required respiratory protection and voluntary upgrade is identified using one of the following:

- Farm specific TVIS, Respiratory Protection Form
- Farm specific TVIS, SEG 3.

3.1.4 IHT monitoring is required when source checking and/or exchanging primary stack samples.

3.1.5 Industrial Hygiene monitoring requirements will be specified in the Industrial Hygiene Sample Plan (IHSP).

3.1.5.1 Contact the facility Industrial Hygienist for the appropriate IHSP.

3.1.6 Follow postings on CAM cabinets when breaching the air monitoring system.
3.1 Personnel Safety

3.1.7 Non-electrical worker accessing electrical enclosures must ensure the following:
- The enclosure must have a white label indicating that it has been evaluated.
- The work activity within the enclosure does not involve:
  - Reaching around or moving electrical equipment
  - Contacting electrical connectors/connections
  - By-passing protective shielding/barriers.

3.1.7.1 Stop and notify management if these conditions cannot be met, or if discrepancies exist (e.g. conflicting or missing labels, missing or damaged protective barriers).

3.1.8 When environmental conditions exist where extreme cold or damp weather conditions could potentially cause condensation to form inside the ventilation system (outside ambient temperature is less than 50 °F and the exhauster has been shut down for longer than 30 minutes), absorbent materials should be placed around the filter paper connection when changing out filter paper. This will help to ensure liquids do not drip on electrical components/insulating barriers and maintains the cabinet in an electrically safe condition.

3.1.9 If liquids run down onto electrical components/insulating barriers, exit the cabinet and notify the Shift Manager that the cabinet must be reevaluated for electrical hazards.

3.1.10 When handling the absorbent materials, workers need to wear surgeons’ gloves.

3.2 Equipment Safety

CAUTION - To prevent cross contamination of record or CAM sample paper, paper should not be removed from proper envelope.

3.3 Radiation and Contamination Control

3.3.1 Work in radiological area will be performed using Radiological Work Permit following review by Radiological Control per ALARA Work Planning procedure TFC-ESHQ-RP_RWP-C-03.
3.4 Environmental Compliance

3.4.1 All planned and unplanned outages of Tank Farm ventilation systems, abatement control equipment, and exhaust monitoring systems must be reported to the applicable shift office and Environmental per TFC-ESHQ-ENV_FS-C-01.

3.5 Limits

RPP-16922 Environmental Specification Requirements
TFC-ESHQ-ENV-STD-05 Radioactive Airborne Effluent Sampling

A comprehensive inspection is performed at the beginning of each sampling period or quarterly, whichever is less.

NOTE – LCO 3.1 and LCO 3.4 (HNF-SD-WM-TSR-006) are only applicable to DST Primary Ventilation.

HNF-SD-WM-TSR-006, Tank Farms Technical Safety Requirements
- LCO 3.1, DST Primary Tank Ventilation Systems
- LCO 3.4, DST Induced Gas Release Event Flammable Gas Control.
4.0 PREREQUISITES

4.1 Special Tools, Equipment, and Supplies

The following supplies may be needed to perform this procedure:

- Calculator
- Replacement filter paper, and envelope
- Tweezers for filter handling
- 2-way portable/handheld radio
- Portable count rate survey instruments
- Key for Interlock Bypass Switch (located)
- Small screwdriver
- Surgeons’ gloves.

4.2 Performance Documents

The following additional procedures may be needed to perform this procedure:

- Site Form A-6005-593, Respiratory Protection Form
- Site Form A-6003-962, Chain Of Custody/Sample Analysis Request
- TFC-ESHQ-RP_MON-P-02, Automated Bar Coding of Air Samples.
4.3 Field Preparation

4.3.1 PRIOR to the performance of this procedure, NOTIFY Shift Manager.

4.3.2 IF performing checks on DST Primary Ventilation, Shift Manager/OE VERIFY that there are no ongoing transfers and no waste disturbing activities in SY Farm that requires this system to be OPERABLE and in operation. (LCO 3.4)

____________________ / __________________ / ____________
Shift Manager /OE Signature  Print (First & Last)  Date

4.3.3 REVIEW records to ensure the HPT has completed the following training requirements
- HPT initial qualification
- Orientation Checklist (Site Form A-6003-481)
- OJTs and following courses:
  - 350979, Source Check and Air Sample Exchange
  - 356437, ABCASH.

4.3.4 PREPARE a 47 mm sample filter and sample envelope for each exchange.
5.0 PROCEDURE

NOTE - Sections 5.1 through 5.2 may be performed simultaneously or any logical order, unless otherwise noted in this procedure.

- There are electrical interlocks and relays in the system that, if activated or overridden, can shut down exhaust and detection systems. Attention must be given to exact step-by-step compliance within applicable sections being performed.

5.1 Use and Notifications

5.1.1 IF at any time during the performance of this procedure any item is identified as out-of-specification per the referenced requirement(s), or in the judgment of the HPT an identified condition may render the CAM inoperable, NOTIFY Shift Manager and RadCon Management of the out-of-specification condition.

5.1.2 IF CAM is not in service, IMMEDIATELY NOTIFY Shift Manager.

NOTE - LCO 3.1 is only applicable to DST Primary Ventilation.

5.1.3 IMMEDIATELY NOTIFY Shift Manager of any unplanned exhauster shutdowns AND

IF system supports DST primary ventilation, NOTIFY Shift Manager to initiate time monitoring per LCO 3.1.A.

5.1.3.1 RECORD shutdown event in Radiological Control log.

5.1.3.2 NOTIFY System Engineering that system has shut down.

5.1.4 CONFIRM Air sample filters are exchanged within time frames indicated in Table 1.

5.1.4.1 IF Air Sample Filters are not exchanged within time frames, NOTIFY Shift Manager.
5.2 Exchange Record Sampler Air Sample Filter

NOTE -  Sections 5.1 and 5.2 may be performed independently, simultaneously or in any logical order, unless otherwise noted in this procedure.

Tasks within Section 5.2 may be performed independently, simultaneously or in any logical order, unless otherwise noted in this procedure. The steps within the task must be performed in order.

**TASK 1: A-Train.**

5.2.1 **CONFIRM** Air sample filters are exchanged within the time frames indicated in Table 1.

5.2.2 **IF** normal exchange period is exceeded as given in Table 1 or conditions listed in Table 1 are not met, **NOTIFY** Shift Manager.

5.2.3 **IF** system is found out of service, **NOTIFY** Shift Manager.

5.2.4 **IF** not performing this section in parallel with another section, **CONTACT** Shift Manager **AND**

**OBTAIN** permission to proceed with air sample exchange at designated stack.

5.2.5 **OPEN** cabinet door SY-296-VTP-ENCL-602.

5.2.6 **IF** ABCASH is unavailable, **RECORD** required sample “As-Found” (Off Data) information on white sample envelope.

5.2.7 **SCAN** EDP code (W145) with ABCASH handheld.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

5.2.8 SCAN Sample number on white envelope with ABCASH handheld.

5.2.9 IF during sample exchange the exhaust stack shuts down, PERFORM the following:

5.2.9.1 IMMEDIATELY NOTIFY Shift Manager that system has shut down AND

IF system supports DST Primary Ventilation, NOTIFY Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)

NOTE - Figure 4 shows Masstrons and totalizers.

5.2.10 RECORD required sample "As-Found" (Off Data) information in ABCASH HCU.

5.2.11 OPEN cabinet door SY296-VTP-ENCL-601.

5.2.12 REMOVE the record sample filter.

5.2.12.1 IF record sample filter is wet or damaged, NOTIFY Shift Manager and Radcon Supervisor.

CAUTION

To prevent cross contamination of record or CAM sample paper, paper should not be removed from proper envelope.

5.2.13 INSERT record sample filter into a white sample envelope AND

DO NOT REMOVE record sample filter once placed in white sample envelope.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

5.2.14 INSTALL a new sample filter in the sample holder AND
RE-ASSEMBLE.

5.2.15 CLOSE cabinet door SY296-VTP-ENCL-601.

NOTE - Figure 4 shows Masstrons and totalizers.

5.2.16 RECORD “ON DATA” in ABCASH HCU.

OR

IF ABCASH is unavailable, RECORD “ON DATA” on white sample envelope.

5.2.17 CLOSE cabinet door SY-296-VTP-ENCL-602.

5.2.18 IF additional record sample filter exchanges, REPERFORM Section 5.2,
OTHERWISE

PROCEED to Section 5.4.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

**TASK 2: B-Train.**

5.2.19 CONFIRM Air sample filters are exchanged within the time frames indicated in Table 1.

5.2.20 IF normal exchange period is exceeded as given in Table 1 or conditions listed in Table 1 are not met, NOTIFY Shift Manager.

5.2.21 IF system is found out of service, NOTIFY Shift Manager.

5.2.22 IF not performing this section in parallel with another section, CONTACT Shift Manager AND OBTAIN permission to proceed with air sample exchange at designated stack.

5.2.23 OPEN cabinet door SY-241-VTP-ENCL-107.

5.2.24 SCAN EDP code (W190) with ABCASH handheld.

5.2.25 IF ABCASH is unavailable, RECORD required sample “As-Found” (Off Data) information on white sample envelope.

5.2.26 SCAN Sample number on white envelope with ABCASH handheld.

5.2.27 IF during sample exchange the exhaust stack shuts down, PERFORM the following:

5.2.27.1 IMMEDIATELY NOTIFY Shift Manager that system has shut down AND IF system supports DST Primary Ventilation, NOTIFY Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)

NOTE - Figure 1 shows a sample view of the F5 Screen.

5.2.28 RECORD required sample “As-Found” (Off Data) information in ABCASH HCU.

5.2.28.1 PRESS F1.

5.2.28.2 PRESS F5.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

5.2.29 OPEN cabinet door SY241-VTP-ENCL-301.

5.2.30 REMOVE the record sample filter.

5.2.30.1 IF record sample filter is wet or damaged, NOTIFY Shift Manager and Radcon Supervisor.

CAUTION
To prevent cross contamination of record or CAM sample paper, paper should not be removed from proper envelope.

5.2.31 INSERT record sample filter into a white sample envelope AND

DO NOT REMOVE record sample filter once placed in white sample envelope.

5.2.32 INSTALL a new sample filter in the sample holder AND

RE-ASSEMBLE.

5.2.33 CLOSE cabinet door SY241-VTP-ENCL-301.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

NOTE - Figure 1 shows a sample view of the F5 Screen.

5.2.34 RECORD “ON DATA” in ABCASH HCU.

OR

IF ABCASH is unavailable, RECORD “ON DATA” on white sample envelope.

5.2.35 CLOSE cabinet door SY-241-VTP-ENCL-107.

5.2.36 IF additional record sample filter exchanges, REPERFORM Section 5.2, OTHERWISE

PROCEED to Section 5.4.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

**TASK 3: ANNULUS.**

5.2.37 **CONFIRM** Air sample filters are exchanged within the time frames indicated in Table 1.

5.2.38 **IF** normal exchange period is exceeded as given in Table 1 or conditions listed in Table 1 are not met, **NOTIFY** Shift Manager.

5.2.39 **IF** system is found out of service, **NOTIFY** Shift Manager.

5.2.40 **IF** not performing this section in parallel with another section, **CONTACT** Shift Manager AND **OBTAIN** permission to proceed with air sample exchange at designated stack.

5.2.41 **OPEN** cabinet door 296-VTA-ENCL-900.

5.2.42 **IF** ABCASH is unavailable, **RECORD** required sample “As-Found” (Off Data) information on white sample envelope.

5.2.43 **SCAN** EDP code (W191) with ABCASH handheld.

5.2.44 **SCAN** Sample number on white envelope with ABCASH handheld.

5.2.45 **IF** during sample exchange the exhaust stack shuts down, **PERFORM** the following:

5.2.45.1 **IMMEDIATELY NOTIFY** Shift Manager that system has shut down AND

**IF** system supports DST Primary Ventilation, **NOTIFY** Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)

NOTE - Figure 5 shows data locations.

5.2.46 **RECORD** required sample "As-Found" (Off Data) information in ABCASH HCU.
5.2 Exchange Record Sampler Air Sample Filter (Cont.)

5.2.47 REMOVE the record sample filter.

5.2.47.1 IF record sample filter is wet or damaged, NOTIFY Shift Manager and Radcon Supervisor.

CAUTION

To prevent cross contamination of record or CAM sample paper, paper should not be removed from proper envelope.

5.2.48 INSERT record sample filter into a white sample envelope AND

DO NOT REMOVE record sample filter once placed in white sample envelope.

5.2.49 INSTALL a new sample filter in the sample holder AND

RE-ASSEMBLE.

5.2.50 IF replacing annulus record sample, RESET Record Sample Timer.

5.2.51 IF replacing annulus record sample,

ADJUST flow rate to specified value in Table 2.

5.2.51.1 IF annulus record sample flow rate is not adjustable and outside value specified, IMMEDIATELY NOTIFY Shift Manager.
### 5.2 Exchange Record Sampler Air Sample Filter (Cont.)

**NOTE** - Figure 5 shows data locations.

#### 5.2.52 RECORD “ON DATA” in ABCASH HCU.

**OR**

**IF** ABCASH is unavailable, **RECORD “ON DATA”** on white sample envelope.

#### 5.2.53 CLOSE cabinet door SY-296-VTA-ENCL-900.

#### 5.2.54 **IF** additional record sample filter exchanges, **REPERFORM** Section 5.2, **OTHERWISE** **PROCEED** to Section 5.4.
5.3 Exchange CAM Air Sample Filter

**TASK 1: A-Train.**

NOTE - CAMs may be installed with electrical interlocks and relays that, if alarmed or overridden, can shut down the exhaust and detection systems.

5.3.1 **CONFIRM** Air sample filters are exchanged within the time frames indicated in Table 1.

5.3.1.1 **IF** Air Sample Filters are not exchanged within time frames, **NOTIFY** Shift Manager.

5.3.2 **CONTACT AND OBTAIN** Shift Manager permission to proceed with air sample exchange and O-Ring inspection at designated CAM(s).

5.3.3 **IF** performing this Section on a Primary Ventilation Stack CAM, **PERFORM** the following:

5.3.3.1 **IF** not currently in BYPASS, **OBTAIN** Shift Manager permission to position CAM INTERLOCK BYPASS SWITCH to BYPASS position for running Primary Exhaust Fan.

5.3.3.2 **REQUEST** operator to position CAM INTERLOCK BYPASS SWITCH to bypass position.

5.3.4 **OPEN** cabinet SY296-VTP-ENCL-602.

5.3.5 **RECORD** EDP code (W146) and date along outside edge of CAM filter paper.

5.3.6 **IF** CAM is alarming, **NOTIFY** Shift Manager.

5.3.7 **IF** ABCASH is unavailable, **RECORD** required sample “OFF” information on brown sample envelope.

5.3.8 **SCAN** EDP code (W146) with ABCASH hanheld.

5.3.9 **SCAN** sample number on brown envelope with ABCASH hanheld.

5.3.10 **IF** during sample exchange the exhaust stack shuts down, **PERFORM** the following:

5.3.10.1 **IMMEDIATELY NOTIFY** Shift Manager that system has shut down.

5.3.10.2 **IF** system supports DST Primary ventilation, **NOTIFY** Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)
5.3 Exchange CAM Air Sample Filter (Cont.)

NOTE - Figure 4 shows data locations.

5.3.11 **RECORD** required sample "OFF" information in ABCASH HCU.

NOTE - For an AMS-4 CAM, the following step will reset the history files and inhibit alarm monitoring until sufficient new history is obtained as indicated by "READY" light. This also allows time for proper O-Ring inspection. Collection of new history will not occur and alarm will remain active until the filter door is closed.

5.3.12 **IF** exchanging filter on an AMS-4 CAM AND

**IF** alarm acknowledge button is located in immediate vicinity of detector head, **ACKNOWLEDGE** alarm that occurs when filter door is opened.

5.3.13 **OPEN** cabinet SY296-VTP-ENCL-601.

5.3.14 **REMOVE** CAM filter.

5.3.15 **INSERT** CAM filter into a brown sample envelope.

5.3.16 **INSPECT** O-ring(s) AND

**IF** O-ring(s) are found to be damaged or missing, **NOTIFY** Shift Manager of O-ring condition.

5.3.17 **ENSURE** air sample filter holder and screens are in place and in good condition.

5.3.18 **INSTALL** a new sample filter in the sample holder and reassemble.

5.3.19 **CLOSE** cabinet SY296-VTP-ENCL-601.

NOTE - Figure 4 shows data locations.

5.3.20 **RECORD** required sample "ON" information in ABCASH HCU, for next sample exchange.

**OR**

**IF** ABCASH is unavailable, **RECORD** required sample “ON” information on brown sample envelope.

5.3.21 **IF** exchanging filter on AMS-4 CAM, **WAIT** for green "READY" light to illuminate before proceeding.
5.3 Exchange CAM Air Sample Filter (Cont.)

5.3.22 IF performing this Section on a Primary Ventilation Stack CAM, **PERFORM** the following:

5.3.22.1 IF CAM INTERLOCK BYPASS SWITCH is to remain in BYPASS position, **GO TO** Step 5.3.23.

5.3.22.2 **OBTAIN** Shift Manager permission to position CAM INTERLOCK BYPASS SWITCH to CAM INTERLOCK/ENABLE position.

5.3.23 **CONTACT AND INFORM** Shift Manager of the completion of air sample exchanges and condition of systems.

5.3.24 **CLOSE** cabinet SY296-VTP-ENCL-602.

5.3.25 **IF** the following are true:
- Performing a source check on calibrated CAM
- CAM supports DST Primary ventilation
- CAM passed test.

**NOTIFY** Shift Manager to stop time monitoring. *(LCO 3.1)*
5.3 Exchange CAM Air Sample Filter (Cont.)

**TASK 2: B-Train.**

NOTE - CAMs may be installed with electrical interlocks and relays that, if alarmed or overridden, can shut down the exhaust and detection systems.

5.3.26 **CONFIRM** Air sample filters are exchanged within the time frames indicated in Table 1.

5.3.26.1 **IF** Air Sample Filters are not exchanged within time frames, **NOTIFY** Shift Manager.

5.3.27 CONTACT AND OBTAIN Shift Manager permission to proceed with air sample exchange and O-Ring inspection at designated CAM(s).

5.3.28 **IF** performing this Section on a Primary Ventilation Stack CAM, **PERFORM** the following:

5.3.28.1 **IF** not currently in BYPASS, **OBTAIN** Shift Manager permission to position CAM INTERLOCK BYPASS SWITCH to BYPASS position for running Primary Exhaust Fan.

5.3.28.2 **REQUEST** operator to position CAM INTERLOCK BYPASS SWITCH to bypass position.

5.3.29 **OPEN** cabinet SY241-VTP-ENCL-107.

5.3.30 **RECORD** EDP code (W199) and date along outside edge of CAM filter paper.

5.3.31 **IF** CAM is alarming, **NOTIFY** Shift Manager.

5.3.32 **IF** ABCASH is unavailable, **RECORD** required sample “OFF” information on brown sample envelope.

5.3.33 **SCAN** EDP code (W199) with ABCASH hanheld.

5.3.34 **SCAN** sample number on brown envelope with ABCASH hanheld.

5.3.35 **IF** during sample exchange the exhaust stack shuts down, **PERFORM** the following:

5.3.35.1 **IMMEDIATELY NOTIFY** Shift Manager that system has shut down.

5.3.35.2 **IF** system supports DST Primary ventilation, **NOTIFY** Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)
5.3 Exchange CAM Air Sample Filter (Cont.)

NOTE - Figure 1 shows data locations.

5.3.36 RECORD required sample "OFF" information in ABCASH HCU.

NOTE - For an AMS-4 CAM, the following step will reset the history files and inhibit alarm monitoring until sufficient new history is obtained as indicated by "READY" light. This also allows time for proper O-Ring inspection. Collection of new history will not occur and alarm will remain active until the filter door is closed.

5.3.37 IF exchanging filter on an AMS-4 CAM AND

IF alarm acknowledge button is located in immediate vicinity of detector head, ACKNOWLEDGE alarm that occurs when filter door is opened.

5.3.38 OPEN cabinet SY241-VTP-ENCL-301.

5.3.39 REMOVE CAM filter.

5.3.40 INSERT CAM filter into a brown sample envelope.

5.3.41 INSPECT O-ring(s) AND

IF O-ring(s) are found to be damaged or missing, NOTIFY Shift Manager of O-ring condition.

5.3.42 ENSURE air sample filter holder and screens are in place and in good condition.

5.3.43 INSTALL a new sample filter in the sample holder and reassemble.

5.3.44 CLOSE cabinet SY241-VTP-ENCL-301.

NOTE - Figure 1 shows data locations.

5.3.45 RECORD required sample "ON" information in ABCASH HCU, for next sample exchange.

OR

IF ABCASH is unavailable, RECORD required sample “ON” information on brown sample envelope.

5.3.46 IF exchanging filter on AMS-4 CAM, WAIT for green "READY" light to illuminate before proceeding.
5.3 Exchange CAM Air Sample Filter (Cont.)

5.3.47 IF performing this Section on a Primary Ventilation Stack CAM, PERFORM the following:

5.3.47.1 IF CAM INTERLOCK BYPASS SWITCH is to remain in BYPASS position, GO TO Step 5.3.48.

5.3.47.2 OBTAIN Shift Manager permission to position CAM INTERLOCK BYPASS SWITCH to CAM INTERLOCK/ENABLE position.

5.3.48 CONTACT AND INFORM Shift Manager of the completion of air sample exchanges and condition of systems.

5.3.49 CLOSE cabinet SY241-VTP-ENCL-107.

5.3.50 IF the following are true:

- Performing a source check on calibrated CAM
- CAM supports DST Primary ventilation
- CAM passed test.

NOTIFY Shift Manager to stop time monitoring. (LCO 3.1)
5.3 Exchange CAM Air Sample Filter (Cont.)

**TASK 3: Annulus.**

NOTE - CAMs may be installed with electrical interlocks and relays that, if alarmed or overridden, can shut down the exhaust and detection systems.

5.3.51 **CONFIRM** Air sample filters are exchanged within the time frames indicated in Table 1.

5.3.51.1 **IF** Air Sample Filters are not exchanged within time frames, **NOTIFY** Shift Manager.

5.3.52 **CONTACT AND OBTAIN** Shift Manager permission to proceed with air sample exchange and O-Ring inspection at designated CAM(s).

5.3.53 **IF** performing this Section on a Primary Ventilation Stack CAM, **PERFORM** the following:

5.3.53.1 **IF** not currently in BYPASS, **OBTAIN** Shift Manager permission to position CAM INTERLOCK BYPASS SWITCH to BYPASS position for running Primary Exhaust Fan.

5.3.53.2 **REQUEST** operator to position CAM INTERLOCK BYPASS SWITCH to bypass position.

5.3.54 **OPEN** cabinet 296-VTA-ENCL-900.

5.3.55 **RECORD** EDP code (W198) and date along outside edge of CAM filter paper.

5.3.56 **IF** CAM is alarming, **NOTIFY** Shift Manager.

5.3.57 **IF** ABCASH is unavailable, **RECORD** required sample “OFF” information on brown sample envelope.

5.3.58 **SCAN** EDP code (W198) with ABCASH hanheld.

5.3.59 **SCAN** sample number on brown envelope with ABCASH hanheld.

5.3.60 **IF** during sample exchange the exhaust stack shuts down, **PERFORM** the following:

5.3.60.1 **IMMEDIATELY NOTIFY** Shift Manager that system has shut down.

5.3.60.2 **IF** system supports DST Primary ventilation, **NOTIFY** Shift Manager to initiate time monitoring per LCO 3.1.A. (LCO 3.1)
5.3 Exchange CAM Air Sample Filter (Cont.)

NOTE - Figure 5 shows data locations.

5.3.61 RECORD required sample "OFF" information in ABCASH HCU.

NOTE - For an AMS-4 CAM, the following step will reset the history files and inhibit alarm monitoring until sufficient new history is obtained as indicated by "READY" light. This also allows time for proper O-Ring inspection. Collection of new history will not occur and alarm will remain active until the filter door is closed.

5.3.62 IF exchanging filter on an AMS-4 CAM AND

IF alarm acknowledge button is located in immediate vicinity of detector head, ACKNOWLEDGE alarm that occurs when filter door is opened.

5.3.63 REMOVE CAM filter.

5.3.64 INSERT CAM filter into a brown sample envelope.

5.3.65 INSPECT O-ring(s) AND

IF O-ring(s) are found to be damaged or missing, NOTIFY Shift Manager of O-ring condition.

5.3.66 ENSURE air sample filter holder and screens are in place and in good condition.

5.3.67 INSTALL a new sample filter in the sample holder and reassemble.

NOTE - Figure 5 shows data locations.

5.3.68 RECORD required sample "ON" information in ABCASH HCU, for next sample exchange.

OR

IF ABCASH is unavailable, RECORD required sample “ON” information on brown sample envelope.

5.3.69 IF exchanging filter on AMS-4 CAM, WAIT for green "READY" light to illuminate before proceeding.
5.3 Exchange CAM Air Sample Filter (Cont.)

5.3.70 **CLOSE** cabinet 296-VTA-ENCL-900.

5.3.71 **CONTACT AND INFORM** Shift Manager of the completion of air sample exchanges and condition of systems.

5.3.72 **IF** the following are true:
- Performing a source check on calibrated CAM
- CAM supports DST Primary ventilation
- CAM passed test.

**NOTIFY** Shift Manager to stop time monitoring.  *(LCO 3.1)*
5.4 Restoration

5.4.1 IF ABCASH system is inoperable, COMPLETE Site Form, A-6003-432 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST.

5.4.1.1 IF air sample exchange was performed, TRANSFER data to ABCASH Database AND DELIVER samples to an approved facility sample storage area.
5.5 Records

5.5.1 PERFORM the following for records identified within this procedure.

5.5.1.1 RECORD the number of times the record was generated in applicable column

OR

PLACE a check mark (✓) in the N/A column.

5.5.1.2 SUBMIT the package or verification of completed records.

<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
<th>Number of times completed</th>
<th>N/A (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3 Field Preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5 Records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5.5.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Forms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-6003-962, Chain of Custody/Sample Analysis Request</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.5.2 FWS/OE/Shift Manager SEND the completed records to the Central Shift Office for records retention.

_________________________/_________________________ / ______________
Signature Print (First and Last) Date

FWS/OE/Shift Manager

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.
Figure 1 - SY-B-Train Primary Exhauster SY241-VTP-ENCL-107 Alarm Cabinet

(Sample view of [F5] screen)

<table>
<thead>
<tr>
<th>SY241-VTP-ENCL-107</th>
<th>ABCASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stack Flow Total</td>
<td>Stack Cu ft</td>
</tr>
<tr>
<td>Record Sample Flow</td>
<td>Rotameter Cu ft / min</td>
</tr>
<tr>
<td>Record Sample Flow Total</td>
<td>Gasmeter</td>
</tr>
<tr>
<td>CAM Sample Flow</td>
<td>Rotameter</td>
</tr>
<tr>
<td>CAM Sample Flow Total</td>
<td>Gasmeter</td>
</tr>
</tbody>
</table>
## Figure 2 - Panel View Plus1000 Main Menu Keyboard Commands

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Screen Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Main Menu</td>
</tr>
<tr>
<td>F2</td>
<td>Alarm History</td>
</tr>
<tr>
<td>F3</td>
<td>Current Alarms</td>
</tr>
<tr>
<td>F4</td>
<td>Engineering Tools</td>
</tr>
<tr>
<td>F5</td>
<td>Environmental Data</td>
</tr>
<tr>
<td>F6</td>
<td>Time</td>
</tr>
<tr>
<td>F7</td>
<td>Current Set Points</td>
</tr>
<tr>
<td>F8</td>
<td>Indicators</td>
</tr>
</tbody>
</table>
This is an example of where o-rings are located. Each system may vary slightly in appearance.
SY296-VTP-ENCL-602 | ABCASH
---|---
Stack Flow Total | Stack Cu ft | 3
Record Sample Flow | Rotameter Cu ft / min | 2
Record Sample Flow Total | Gasmeter | 1
CAM Sample Flow | Rotameter | 4
CAM Sample Flow Total | Gasmeter | N/A
Figure 5 – Enclosure

<table>
<thead>
<tr>
<th>SY296-VTA-ENCL-900</th>
<th>ABCASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stack Flow Total</td>
<td>Stack Cu ft</td>
</tr>
<tr>
<td>Record Sample Flow</td>
<td>Rotameter Cu ft / min</td>
</tr>
<tr>
<td>Record Sample Flow Total</td>
<td>Gasmeter</td>
</tr>
<tr>
<td>CAM Sample Flow</td>
<td>Rotameter</td>
</tr>
<tr>
<td>CAM Sample Flow Total</td>
<td>Gasmeter</td>
</tr>
<tr>
<td></td>
<td>Timer Hrs</td>
</tr>
<tr>
<td></td>
<td>Vacuum in Hg</td>
</tr>
</tbody>
</table>
### Table 1 - Filter Change Intervals

<table>
<thead>
<tr>
<th>Location</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY A- Train (296-S-25)</td>
<td>168 hours (7 days) * or 20,000 cubic feet</td>
<td>Quarterly</td>
</tr>
<tr>
<td>SY B- Train (296-P-23)</td>
<td>(566.4 cubic meters)</td>
<td></td>
</tr>
<tr>
<td>241-SY Annulus Exh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Contact Environmental if filter exchange is required within less than minimum required hours of service.
<table>
<thead>
<tr>
<th>Location</th>
<th>CAM</th>
<th>Flow Rate</th>
<th>A.S.P. CPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>296-S-25 241-SY A-Train Tank Exh</td>
<td>Beta Record</td>
<td>Automatically adjusted (1.4-1.9 cfm)</td>
<td>3000 N/A</td>
</tr>
<tr>
<td>296-P-23 241-SY B-Train Tank Exh</td>
<td>Beta Record</td>
<td>Automatically adjusted (0.75 - 1.25 cfm)</td>
<td>3000 N/A</td>
</tr>
<tr>
<td>296-P-22 241-SY Annulus Exh</td>
<td>Beta Record</td>
<td>1.8 - 2.2 cfm 108 - 132 scfh</td>
<td>3000 N/A</td>
</tr>
</tbody>
</table>

NOTE: Exhauster B, Exhauster C, and 241-SY B-Train Portable Exh CAM have no flow adjustment, alarm will activate when flow is out of range.